



AMENDMENTS TO THE CLAIMS

1. (currently amended) An isolated nucleic acid which encodes a polypeptide comprising the amino acid sequence set forth in SEQ ID NO: 2 or a human SH3D1A, including analogs, fragments, thereof variants, and mutants, thereof.
2. (currently amended) The isolated nucleic acid of claim 1, wherein the nucleic acid has the a nucleotide sequence having at least 85% similarity with the nucleic acid coding sequence of set forth in SEQ ID NO: 1; or that of Figures 8, 10, 12 or 14.
3. (original) The isolated nucleic acid of claim 1, wherein the nucleic acid is DNA or RNA.
4. (original) The isolated nucleic acid of claim 2, wherein the nucleic acid is cDNA or genomic DNA.
5. (currently amended) The isolated nucleic acid of claim 1, wherein the nucleic acid encodes an amino acid sequence comprising which forms two EH domains and four SH3 domains.
6. (currently amended) The isolated nucleic acid of claim 4, wherein the nucleic acid encodes an amino acid sequence comprising which forms one or more myristylation sites in the EH domains and SH3 domains.
7. (currently amended) The isolated nucleic acid of claim 4, wherein said fragment comprises the nucleic acid encodes an amino acid sequence of the EH1 domain which corresponds to the region from residue about amino acid sequence 15 to residue about sequence 102 of SEQ ID NO:2 Figure 5.

8. (currently amended) The isolated nucleic acid of claim 4, wherein said fragment comprises the nucleic acid encodes an amino acid sequence of the EH2 domain which corresponds to the region from residue about 215 to residue about sequence 310 of SEQ ID NO:2 Figure 5.

9. (currently amended) The isolated nucleic acid of claim 4, wherein said fragment comprises the nucleic acid encodes an amino acid sequence of the SH3-1 domain which corresponds to the region from residue about sequence 740 to residue about sequence 800 of SEQ ID NO:2 Figure 5.

10. (currently amended) The isolated nucleic acid of claim 4, wherein said fragment comprises the nucleic acid encodes an amino acid sequence of the SH3-2 domain which corresponds to the region from residue about sequence 908 to residue about sequence 966 of SEQ ID NO:2 Figure 5.

11. (currently amended) The isolated nucleic acid of claim 4, wherein said fragment comprises the nucleic acid encodes an amino acid sequence of the SH3-3 domain which corresponds to the region from residue about sequence 999 to residue about sequence 1062 of SEQ ID NO:2 Figure 5.

12. (currently amended) The isolated nucleic acid of claim 4, wherein said fragment comprises the nucleic acid encodes an amino acid sequence of the SH3-4 domain which corresponds to the region from about sequence residue 1080 to residue about sequence 1138 of SEQ ID NO:2 Figure 5.

13. Canceled

14. Canceled

15. (original) The isolated nucleic acid of claim 1, wherein the nucleic acid is labeled with a detectable marker.

16. (original) The isolated nucleic acid of claim 15, wherein the detectable marker is a radioactive isotope, a fluorophor or an enzyme.

17. (currently amended) An oligonucleotide of at least 15 nucleotides capable of specifically hybridizing with the isolated a sequence of nucleotides present within a nucleic acid which encodes the human SH3D1A of claim 1.

18. Canceled

19. (original) The oligonucleotide of claim 17, wherein the oligonucleotide is labeled with a detectable marker.

20. (currently amended) The oligonucleotide of claim 19, wherein the marker oligonucleotide is a radioactive isotope, a fluorophor or an enzyme.

21. (currently amended) An isolated nucleic acid having a sequence complementary to that the sequence of the isolated nucleic acid of claim 1.

22. (original) An antisense molecule capable of specifically hybridizing with the isolated nucleic acid of claim 1.

23. (original) A vector comprising the isolated nucleic acid of claim 1.

24. (currently amended) The vector of claim 23, further comprising a promoter of RNA transcription operatively, or an expression element linked to the nucleic acid.

25. (original) The vector of claim 23, wherein the promoter comprises a bacterial, yeast, insect or mammalian promoter.

26. (currently amended) The vector of claim 24, wherein the vector is a ~~further comprising~~ plasmid, cosmid, yeast artificial chromosome (YAC), BAC, P1, bacteriophage or eukaryotic viral DNA.

27. (currently amended) A host cell containing vector system for the production of a polypeptide which comprises the vector of claim 23 in a suitable host.

28. (currently amended) The host cell vector system of claim 27, wherein the suitable host cell is a prokaryotic or eukaryotic cell.

29. (currently amended) The host cell vector system of claim 28, wherein the eukaryotic cell is a yeast, insect, plant or mammalian cell.

30. (currently amended) A method for producing a polypeptide comprising culturing which comprises growing the host cell vector system of claim 23 under conditions suitable for conditions permitting production of the polypeptide and recovering the polypeptide from the host cell culture so produced.

31. (currently amended) A method of obtaining a polypeptide in purified form comprising which comprises:

- (a) introducing the vector of claim 23 into a suitable host cell;
- (b) culturing the resulting cell so as to produce the polypeptide;
- (c) recovering the polypeptide produced in step (b); and
- (d) purifying the polypeptide so recovered.

32-57. Canceled

58. (newly added) The isolated nucleic acid of claim 1, wherein said nucleic acid is used as a probe to diagnose a condition selected from the group consisting of

megakaryocytic abnormality, hematopoietic disorder, myeloproliferative disorder, platelet disorder, leukemia and neural abnormalities.